



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,095	04/16/2004	Krishna M. Gupta	PMI-28	9254
20808	7590	06/01/2005	EXAMINER	
BROWN & MICHAELS, PC 400 M & T BANK BUILDING 118 NORTH TIOGA ST ITHACA, NY 14850			WEST, PAUL M	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

EK

Office Action Summary	Application No.		Applicant(s)	
	10/826,095		GUPTA ET AL.	
	Examiner		Art Unit	
	Paul M. West		2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-16, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 7, 17, and 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>08202004</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 4 and 5 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The limitation in claim 4 that "the at least one port comprises a wetting port for introducing wetting liquid" is unclear because claim 1 specifies the "at least one port" as being for the "introduction of gas under pressure." As written, claim 4 suggests that the at least one port is used for both introducing gas under pressure and introducing wetting liquid. The specification does not disclose a single port being used for both purposes and it is unclear how this is accomplished.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2856

Claims 4, 5, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 4 and 5, the limitation that "the at least one port comprises a wetting port for introducing of wetting liquid" is unclear because claim 1 specifies the "at least one port" as being for the "introduction of gas under pressure." It is not clear which purpose the at least one port is used for, or whether it is used for both purposes.

As to claim 15, the term "hollow chamber" lacks antecedent basis in the claim. It appears this should be replaced with --upper chamber--, and should be corrected accordingly.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 6, and 8-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chavdar in view of Phelps et al.

As to claims 1, 2, 6, and 8-11, Chavdar teaches a chamber for flow porometry comprising: a movable upper chamber 40 comprising a center bore opening to a bottom of the chamber (see Fig. 1), a pressure port 56 for introduction of gas under pressure to the center bore, and an adapter plate 36 located at the bottom of the upper chamber; a

Art Unit: 2856

stationary lower seat 12 opposing the upper chamber 40 with a center bore aligned with the upper chamber, comprising an exhaust 26, an annular seal in groove 35 (Par. 0045, lines 6 and 7) around the center bore, wherein a material to be tested S is placed between the upper chamber 40 and the lower seat 12, and an adapter plate 36 upon which the material to be tested is placed; and an actuator in the form of piston 50 for moving the upper chamber 40, wherein when the upper chamber is moved down in contact with an upper surface of a sample of the material S and the annular seal of the lower seat 12 is in contact with a lower surface of the sample S, gas introduced to the upper chamber is constrained to go through the upper chamber and out through the exhaust. Chavdar does not teach an annular seal around the center bore of the upper chamber and is silent as to the type annular seal used around the center bore of the lower seat. Phelps et al. teach a sample chamber for flow porometry, using o-rings 24 around the center bore of both the upper chamber 26 and the lower chamber 28. It would have been obvious to one of ordinary skill in the art to use the o-rings of Phelps with the sample chamber of Chavdar because o-rings are well known as being effective annular seals and they are adaptable for use with a large variety of materials. In addition, placing a second o-ring around the center bore of Chavdar's upper chamber would ensure a more airtight seal between the chamber and the upper surface of the sample.

As to claims 12-15, Chavdar teaches a method of performing flow porometry using the sample chamber as described above, comprising the steps of: placing a sheet of material S between the upper chamber 40 and the lower seat 12; moving the

Art Unit: 2856

upper chamber 40 down and applying pressure with the actuator 50 until the upper chamber and lower annular seal create a gas-tight seal around the sample S; performing a flow porometry test by introducing gas through the port 56; measuring a first differential pressure and a first flow rate by introducing gas into the upper chamber 40 and allowing the gas to flow through the sample S and out the exhaust 26; reducing the differential pressure to zero in order to access the sample for wetting; wetting the sample; measuring a second differential pressure and a second flow rate through the sample by introducing gas into the upper chamber and allowing the gas to flow through the sample and out the exhaust; and unloading the sample (Par. 0029, lines 1-7).

Chavdar does not teach an annular seal around the center bore of the upper chamber and therefore does not teach sealing the sample with this annular seal in the second step of the method. Phelps et al. teach providing an annular seal around the center bore of both the upper and lower chambers. Just as it has been argued that it would have been obvious to employ the annular seal around the center bore of Chavdar's upper chamber, it would have been further obvious to include the step of creating a gas-tight seal around the sample using this annular seal in the method of Chavdar because this a much more reliable way of ensuring that no air will escape around the edges of the sample chamber.

As to claim 16, it would have been obvious to repeat the steps in the method because repetition of experiment is a common way to reduce the effect of random errors.

Art Unit: 2856

Claims 3, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chavdar in view of Phelps et al. and Ganzi.

As to claim 3, the combination of Chavdar and Phelps et al. teach all of the limitations as set forth above, and Chavdar teaches measuring the pressure in the chamber but is silent as to the type of measuring device used and where it is placed on the apparatus. Ganzi teaches a sample chamber for flow porometry with a pressure transducer 81 connected to the upper chamber 30. It would have been obvious to one of ordinary skill in the art to use the pressure transducer and configuration of Ganzi with the combination of Chavdar and Phelps because this would give a direct measure of the pressure in the upper chamber and a pressure transducer is a simple, unobtrusive way to measure pressure.

As to claim 19, the combination of Chavdar and Phelps et al. teaches all the limitations as set forth above, but does not teach a plurality of sensors for measuring flow and differential pressure. Ganzi teaches a sample chamber for flow porometry employing multiple pressure transducers 81 and 91 and flow sensors 80 and 90 for measuring differential pressure and fluid flow. It would have been obvious to one of ordinary skill in the art to use the multiple pressure transducers and flow sensors of Ganzi with the combination of Chavdar and Phelps because pressure and flow measurements are necessary to collect porometry data using the methods set forth by Chavdar, and incorporating these sensors into the apparatus is a simple and easy way to obtain these measurements.

As to claim 20, the combination of Chavdar and Phelps et al. does not teach a flow porometer coupled to the sample chamber, wherein the porometer includes at least one of the sensors and a plurality of controllers for automating the apparatus. Ganzi teaches the pressure sensors 81 and 91 being coupled to a computer that serves as a porometer, which is coupled to controllers for automating the apparatus (Col. 8, lines 52-55). It would have been obvious to one of ordinary skill in the art to incorporate the porometer and controllers of Ganzi into the combination of Chavdar Phelps because automated testing and operation of an apparatus can be much more efficient and reduce the possibility for human error to affect results.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chavdar in view of Phelps et al. and Levesque.

As to claims 4 and 5, the combination of Chavdar and Phelps et al. teach all of the limitations as set forth above but does not teach a wetting port for introducing wetting liquid to the sample chamber. Levesque teaches a porometry device with a wetting port 21 for introducing wetting liquid to the test chamber 14, and a valve 24 connected to the port for regulating the quantity of wetting liquid being discharged into the sample chamber 14. It would have been obvious to one of ordinary skill in the art to employ the wetting port of Levesque with the combination of Chavdar and Phelps because a wetting port would allow the sample to be wetted without removing it from the sample chamber.

Allowable Subject Matter

Claims 7, 17, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note that Hartikainen et al. use a clamping device to clamp a sample between two chambers. Note that Volkovich et al. use a motorized actuating device to bring two sampling chambers together.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul M. West whose telephone number is (571) 272-8590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2856

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800